

19



Europäisches Patentamt
European Patent Office
Office européen des brevets



11 Publication number:

0 469 771 A3

12

EUROPEAN PATENT APPLICATION

21 Application number: **91306677.5**

51 Int. Cl.⁵: **G05B 21/02**

22 Date of filing: **23.07.91**

30 Priority: **30.07.90 US 559645**

71 Applicant: **THE FOXBORO COMPANY**
33 Commercial Street
Foxboro, MA 02035(US)

43 Date of publication of application:
05.02.92 Bulletin 92/06

72 Inventor: **Badavas, Paul C.**
19 Rock Point Road
Southboro, Massachusetts 01772(US)

84 Designated Contracting States:
AT BE CH DE DK ES FR GB GR IT LI LU NL SE

74 Representative: **Hughes, Brian Patrick et al**
Graham Watt & Co. Riverhead
Sevenoaks, Kent TN13 2BN(GB)

88 Date of deferred publication of the search report:
23.09.92 Bulletin 92/39

54 Method and apparatus for process control.

57 A statistical process control system provides asymmetrical nonlinear automatic closed-loop feedback control. The system has application, for example, in the control of equipment that responds to a controlled variable signal to vary a measurable characteristic of a process. The system uses an accumulated deviation of a measured subgroup means minus a target value, divided by the subgroup standard deviation, to modify the manipulated variable

each time the accumulated value exceeds a decision interval above or below the target. The system permits the use of independent slack variables subtracted from the accumulated deviation to more closely model the underlying process. Likewise, the system permits the use of independent alarm values and variable gains to permit greater control of the process.

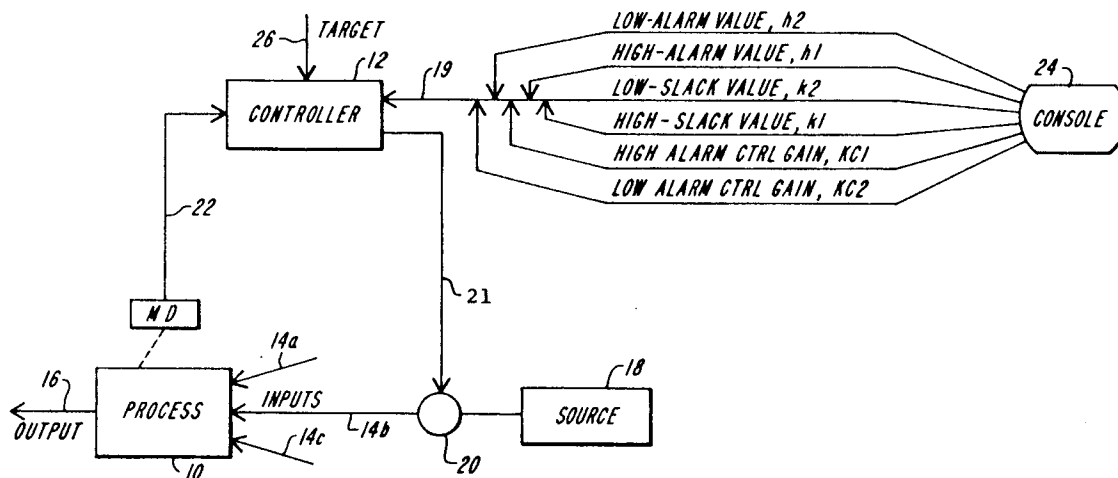


FIG. 1

EP 0 469 771 A3



DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	WO-A-8 900 723 (THE FOXBORO COMPANY) * page 3, line 31 - page 6, line 31; figure 1 * ---	1, 16	G05B21/02
A	DE-A-2 249 860 (INDUSTRIAL NUCLEONICS CORP.) * page 12, line 8 - line 20; claims 1,2; figure 1 * ---	1, 16.	
A	ADVANCES IN INSTRUMENTATION AND CONTROL vol. 44, no. 1, 1989, RESEARCH TRIANGLE PARK US pages 107 - 118; J.A. SHAW: 'STATISTICAL PROCESS CONTROL FOR THE CHEMICAL AND PETROLEUM INDUSTRIES' * page 111, line 1 - line 6 * -----	1, 16	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			G05B
Place of search	Date of completion of the search	Examiner	
THE HAGUE	22 JULY 1992	GOETZ P. A.	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			